

Abstract

A highly alkali resistant colloidal silica having an excellent cocoon-shape and excellent performance as abrasive particles. The cocoon-shaped colloidal silica is prepared by hydrolyzing and condensing an alkoxy silane condensate in the presence of an ammonia or ammonium salt catalyst. It can also be prepared by adding continuously an alkoxy silane condensate or its solution in an aqueous solvent to an aqueous solution of ammonia or an ammonium salt or to an aqueous solution containing ammonia or an ammonium salt and an aqueous solvent, thereby hydrolyzing the alkoxy silane; and further heating under pressure. The temperature to which the colloidal silica is heated under pressure is preferably 105 to 374.1 °C; and the alkoxy silane condensate preferably has an average degree of condensation of 2 to 8.